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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/776,437	02/10/2004	Jagrut V. Patel	030222	2918

23696 7590 07/13/2006  
QUALCOMM INCORPORATED  
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EXAMINER
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HUANG, WEN WU

ART UNIT	PAPER NUMBER
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2618

DATE MAILED: 07/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/776,437

Applicant(s)

PATEL ET AL.

Examiner

Wen W. Huang

Art Unit

2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 April 2006.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 and 30-39 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-15 and 30-39 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

Claims 1-15 and 30-39 are pending.

Claims 16-29 are cancelled.

### ***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-21, 23-33, 38 and 39 are rejected under 35 U.S.C. 102(e) as being anticipated by Kitagawa (US. 6,624,613 B2).

Regarding **claim 1**, Kitagawa teaches a power source, comprising:

first and second batteries (see fig. 3, components 14x and 14y; col. 5, lines 33-34); and

a power management module (see fig. 3, components 12x, 12y and 17) configured to operate each of the first and second batteries in a pulse current discharge mode (see fig. 3, component 25) while supplying continuous current to a load (see fig. 21 and 36; col. 11, lines 31-45 and col. 16, lines 39-52; the continuous supplying of current is insured by Step 21 of fig. 36, wherein SWX is on before SWY is off).

Regarding **claim 2**, Kitagawa also teaches the power source of claim 1 wherein the power management module comprises a switch control module (see fig. 3, component 17 and fig. 20), and a switch (see fig. 3, components 12x and 12y) configured to intermittently couple (see fig. 20 and 21, components 91 and 92) the first and second batteries to the load (see fig. 3, component 10) under control of the switch control module (see fig. 3, component 17).

Regarding **claim 3**, Kitagawa further teaches the power source of claim 2 wherein the switch comprises a first switch (see fig. 3, component 12x) configured to intermittently couple the first battery (see fig. 3, component 14x and fig. 36 components S23 and S21) to the load under control of the switch control module (see fig. 3, component 17), and a second switch (see fig. 3, component 12y) configured to intermittently couple the second battery to the load (see fig. 3, component 14y and fig. 36, components S28 and S21) under control of the switch control module (see fig. 3, component 17).

Regarding **claim 4**, Kitagawa also teaches the power source of claim 3 wherein the first and second switches each comprises a field effect transistor (see fig. 3, component "FET 21"; col. 5, lines 43-44).

Regarding **claim 5**, Kitagawa further teaches the power source of claim 3 wherein the power management module is further configured to measure (see fig. 3,

Art Unit: 2618

components 15x and 15y) the current supplied to the load (see fig. 3, component 10), the switch control module being further configured to control the switch as a function of the measured current (see fig. 20, components 86x and 86y and col. 11, lines 36-46).

Regarding **claim 6**, Kitagawa teaches the power source of claim 5 wherein the switch control module is further configured to control the switch such that the first and second batteries are continuously coupled to the load (see fig. 36, component S21) if the measured current is below a threshold (see fig. 36, components S22 and S27).

Regarding **claim 7**, Kitagawa teaches the power source of claim 5 wherein the switch control module is further configured to control the switch such that each of the first and second batteries are intermittently (see fig. 36 components S23, S28 and S21) coupled to the load if the measured current reaches a threshold for a period of time (see fig. 36, component S31).

Regarding **claim 8**, Kitagawa also teaches the power source of claim 3 wherein the switch control module is further configured to control the switch such that the first battery is coupled to the load (see fig. 36, component S21) before removing the second battery from the load (see fig. 36, component S23 or S28).

Regarding **claim 9**, Kitagawa further teaches the power source of claim 2 wherein the switch control module is further configured to control the switch as a

Art Unit: 2618

function of voltage measured (see fig. 10) at each of the first and second batteries (see col. 7, lines 60-66).

Regarding **claim 10**, Kitagawa teaches the power source of claim 2 wherein the switch control module is further configured to control the switch to couple one of the first and second batteries having the highest voltage to the load (see fig. 9 and fig. 37, component S43).

Regarding **claim 11**, Kitagawa teaches a power source, comprising:

first and second batteries (see fig. 3, components 14x and 14y; col. 5, lines 33-34); and

means for (see fig. 3, components 12x, 12y and 17) operating each of the first and second batteries in a pulse current discharge mode (see fig. 3, component 25) while supplying continuous current to a load (see fig. 21 and 36; col. 11, lines 31-45 and col. 16, lines 39-52; the continuous supplying of current is insured by Step 21 of fig. 36, wherein SWX is on before SWY is off).

Regarding **claims 12-15**, the dependent claims are interpreted and rejected for the same reasons as set forth above in claims 3, 5, 8 and 9, respectively.

Regarding **claim 30**, Kitagawa teaches a wireless communications device, comprising:

Art Unit: 2618

a processor configured to support wireless communications (see col. 1, lines 14-15; note book personal computer has a CPU capable of supporting wireless communication such as WLAN IEEE 802.11);

first and second batteries (see fig. 3, components 14x and 14y; col. 5, lines 33-34); and

a power management module (see fig. 3, components 12x, 12y and 17) configured to operate each of the first and second batteries in a pulse current discharge mode (see fig. 3, component 25) while supplying continuous current to the processor (see fig. 21 and 36; col. 11, lines 31-45 and col. 16, lines 39-52; the continuous supplying of current is insured by Step 21 of fig. 36, wherein SWX is on before SWY is off).

Regarding **claims 31-33, 38 and 39**, the dependent claims are interpreted and rejected for the same reasons as set forth above in claims 2-4, 9 and 10, respectively.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2618

2. Claims 34, 36 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitagawa as applied to claim 32 above, and further in view of Leifer (US. 6,459,171 B1)

Regarding **claim 34**, Kitagawa teaches the wireless communications device of claim 32.

However, Kitagawa fails to teach that wherein the processor is further configured to operate in an idle state, the switch control module further being configured to control the switch as a function of the processor state.

But, Leifer teaches that wherein the processor (see Leifer, fig. 2, component 201) is further configured to operate in an idle state (see Leifer, col. 5, lines 14-20), the switch control module further being configured to control the switch as a function of the processor state (see Leifer, col. 5, lines 20-34).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Kitagawa with the teaching of Leifer in order to improve power consumption efficiency for a system with a plurality of power sources (see Leifer, col. 1, lines 34-35).

Regarding **claim 36**, the combination of Kitagawa and Leifer also teaches the wireless communications device of claim 34 wherein the switch control module (see Leifer, fig. 2, component 217) is further configured to control the switch (see Leifer, fig. 2, components 221 and 219) such that each of the first and second batteries are



intermittently (see Leifer, fig. 3) coupled to the processor (see Leifer, fig. 2, component 201) if the processor is in the traffic state (see Leifer, col. 6, lines 32-39).

Regarding **claim 37**, the combination of Kitagawa and Leifer also teaches the wireless communications device of claim 34 wherein the power control module is further configured to determine the processor state as a function of the current (see Leifer, fig. 2, component 215) supplied to the processor (see Leifer, col. 4, lines 26-29).

3. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kitagawa and Leifer as applied to claim 34 above, and further in view of Mole et al. (US. 6,522,873B1)

Regarding **claim 35**, the combination of Kitagawa and Leifer teaches the wireless communications device of claim 34.

However, the combination of Kitagawa and Leifer fails to teach that wherein the switch control module is further configured to control the switch such that the first and second batteries are continuously coupled to the processor if the processor is in the idle state.

But, Moles et al teach a wireless communication device (see Moles et al, col. 1, lines 26-30) wherein a switch control module (see Moles et al, fig. 2, component 230) is further configured to control a switch such that the first (see Moles et al, fig. 2, component 250) and second (see Moles et al, fig. 2, component 260) batteries are

continuously (see Moles et al, fig. 3, component 330, "non-slotted mode") coupled to the processor if the processor is in the idle state (see Moles et al, col. 1, lines 55-65).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Kitagawa and Leifer with the teaching of Moles in order to improve wireless communication devices that are less likely to losing a communication (see Moles et al, col. 2, lines 19-21).

### ***Response to Arguments***

Applicant's arguments filed 4/13/06 have been fully considered but they are not persuasive.

In response to Applicant's argument that PWM control circuit of Kitigawa controls the switches when the two batteries are to be charged unlike the discharge method of the instant application, the Examiner respectfully disagrees.

More specifically, Kitigawa teaches that the same on/off control of the switches as in the charge control is performed during discharge (see Kitigawa, col. 17, lines 52-54 and col. 18, lines 13-17). Furthermore, Fig. 40 of Kitigawa shows both switches intermittently turned on and off based on the on/off control during a discharge state (see Kitigawa, col. 17, col. 52-54).

Therefore, the Examiner submits that Kitigawa teaches a power management module configured to operate each of the first and second batteries in a pulse current discharge mode while supplying continuous current to a load.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wen W. Huang whose telephone number is (571) 272-7852. The examiner can normally be reached on 10am - 6pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay A. Maung can be reached on (571) 272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2618

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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7/20/06

  
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SUPERVISORY PATENT EXAMINER